VITEK

MIGHTY DOME 960H Cameras

750 TVL Dome Cameras Series

- 1/3" 960H High Density Double Scan Sony CCD
- 750 TVL High Resolution
- WDR - Wide Dynamic Range (Selected Models)
- True Day/Night by ICR
- IR Corrected Lens Options Lens options: 2.8-10mm and 9-22mm
- XD-DNR (2D+3D DNR) Noise Reduction
- Polygon Masking with 15 Programmable Zones
- OSD (On Screen Display) for Camera Setup
- Flush or Surface mount with included adaptor
- Defog video enhancement processing
- Ultra Versatile Design with Infinity Ball Mount for Any Viewing Angle
- UTC CONTROL - Serial Control over Coax
- Secondary Video Output (Cable Included)
- Optional UTP Interface Available
- Fully Gasket Sealed with an IP-68 Water tight NEMA Rating (Vandal Resistant Versions)
- Optional Heater / Blower Options Available (Vandal Resistant Versions)
- Standard (-40°F) and Extreme Cold (-60°F) Temperature Kits Available (Vandal Resistant Versions)
- Available in Ivory or Black
- 12VDC / 24VAC Dual Voltage Operation

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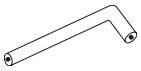
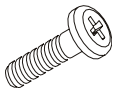
BOX CONTENTS

1) **Mighty Dome Camera**
2) **Accessories**
3) **VT-MD-2VOC (Secondary Video Output Cable)**
4) **Instruction Manual & Mounting Template**

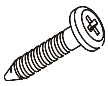
INCLUDED ACCESSORIES



Torx Wrench - (Vandal & IR Versions Only)
Type #: T20
Length: 63mm / Diameter: 4mm
Qty: 1



Phillips head Screws - (Vandal & IR Versions Only)
For attaching the dome cover to the flush housing.
Type #: Phillips head M4x10
Length: 10mm / Diameter: 4mm
Qty: 4

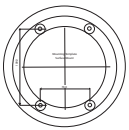


Self Tapping Screws
For attaching the surface mount housing or the the flush mount base
to a solid surface.
Type #: Phillips St4x30
Length: 30mm / Diameter: 4mm
Qty:4

Self Tapping Screws - (Indoor Version Only)
For attaching the dome cover to the flush housing.
Type #: Phillips St4x12
Length: 12mm / Diameter: 4mm
Qty: 4

Anchors
If necessary, use to help secure the self tapping screws.
Length: 30mm / Diameter: 7mm
Qty: 4

Secondary Video Output Cable for Mighty Domes: VT-MD-2VOC
For viewing video image during installation.
Qty: 1



Mounting Template
Qty: 1

AVAILABLE MODELS / ACCESSORIES

INDOOR MIGHTY DOME CONFIGURATIONS:

VTD-MS2810DN: *960H - Indoor Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/2.8-10mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MS922DN: *960H - Indoor Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/9-22mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC*

VTD-MS1850DN: *960H - Indoor Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/18-50mm Lens, OSD, Day Night w/ICR and "Night Watch" DSS -12VDC/24VAC -Special Order (Call for Lead Time) (Available In Ivory or Black)*

VTD-MS2810WDR: *960H - Indoor Effio-V Powered WDR Mighty Dome 750TVL Camera w/2.8-10mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MS922WDR: *960H - Indoor Effio-V Powered WDR Mighty Dome 750TVL Camera w/9-22mm Lens, OSD, Day Night w/ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VANDAL RESISTANT MIGHTY DOME CONFIGURATIONS:

VTD-MVS2810DN: *960H - Outdoor Vandal Proof Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/2.8-10mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MVS922DN: *960H - Outdoor Vandal Proof Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/9-22mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MVS1850DN: *960H - Outdoor Vandal Proof Effio-A Powered Day/Night Mighty Dome 750TVL Camera w/18-50mm Lens, OSD, Day Night w/ICR and "Night Watch" DSS -12VDC/24VAC - Special Order (Call for Lead Time) (Available In Ivory or Black)*

VTD-MVS2810/L35: *960H - Outdoor Vandal Proof Effio-A Powered IR Mighty Dome 750TVL Camera w/2.8-10mm Lens, 35 IR LED's, OSD, Day Night w/ICR and "Night Watch" DSS -12VDC/24VAC (Available In Ivory or Black)*

VTD-MVS922/L35: *960H - Outdoor Vandal Proof Effio-A Powered IR Mighty Dome 750TVL Camera w/9-22mm Lens, 35 IR LED's, OSD, CR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MVS1850/L35: *960H - Outdoor Vandal Proof Effio-A Powered IR Mighty Dome 750TVL Camera w/18-50mm Lens, 35 IR LED's, OSD, Day Night w/ICR and "Night Watch" DSS -12VDC/24VAC - Special Order (Call for Lead Time) (Available In Ivory or Black)*

VTD-MVS2810WDR: *960H - Outdoor Vandal Proof Effio-V Powered WDR Mighty Dome 750TVL Camera w/2.8-10mm Lens, OSD, ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

VTD-MVS922WDR: *960H - Outdoor Vandal Proof Effio-V Powered WDR Mighty Dome 750TVL Camera w/9-22mm Lens, OSD, /ICR and "Night Watch" DSS -12VDC/24VAC (Ivory or Black)*

OPTIONAL MOUNTS & ACCESSORIES:

1. **VT-MD-HB24:** *Heater/Blower Kit (Vandal Resistant Models)*
2. **VT-MD-UTP:** *Unshielded Twisted Pair Transceiver Built-In*
3. **VT-MD/FMP:** *Flush Mount Plate for installation in drop ceilings or can be used as cover plate when using 4S Junction Box*
4. **VT-MD/PLMT:** *Mighty Dome Pole Mount Adapter - Requires VT-MD/WMT Wall Mount*
5. **VT-MD/CMT:** *Mighty Dome Ceiling/Pedestal Mount (Can be extended if necessary)*
6. **VT-MD/CNMT:** *Mighty Dome Corner Mount Adapter - Requires VT-MD/WMT Wall Mount*
7. **VT-MD/WMT:** *Mighty Dome Wall Mount (Available In Ivory or Black)*

1.

2.

3.

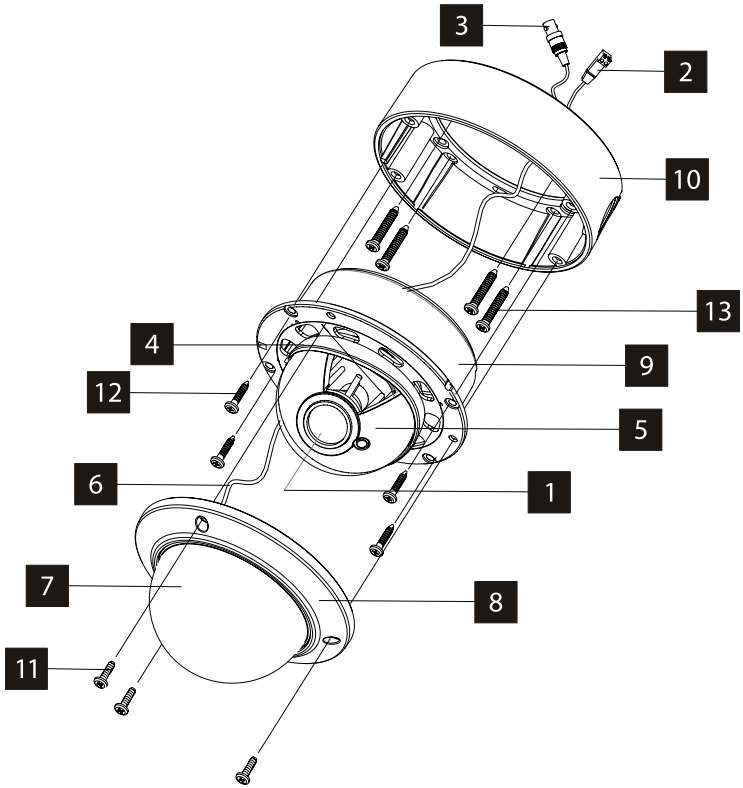
4.

5.

6.

7.

MIGHTY DOME LAYOUT



1) *Lens*

2) *Power Input Connector(12VDC / 24VAC)*

3) *Video Output Connector - BNC*

4) *Camera Holder and 2nd Video output*

5) *Ball with the Camera Assembly*

6) *Safety Wire*

7) *Bubble*

8) *Dome Cover Ring*

9) *Flush Mount Base*

10) *Surface Mount Base*

11) *Assembly Screws - Torx M4x9 (Vandalproof)*

12) *Assembly Screws - Phillips ST4x12 (Indoor) / Phillips M4x10 (Vandalproof / IR)*

13) *Mounting Screws - Phillips ST4x30*

INSTALLATION

1) Dome Cover

1.1 Vandal Proof Domes - Use the provided Torx wrench to unscrew the vandal proof screws and remove the dome cover.

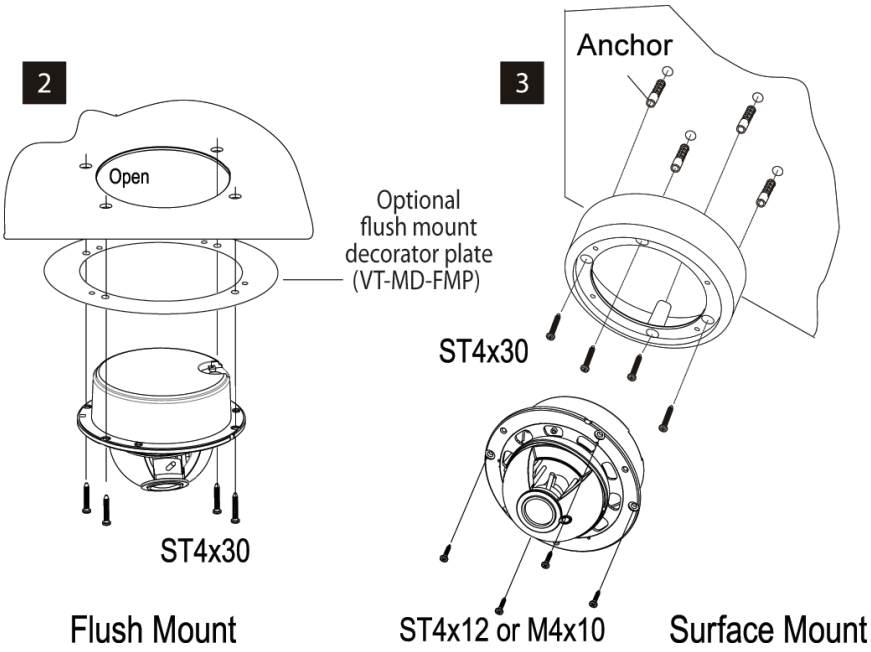
1.2 Indoor Domes - Turn the dome cover to the left to remove the dome cover.

2) Flush Mount Installation:

Using four St4x30 screws, attach the flush mount base to a sturdy surface. Optional flush mount decorator plate. Model: VT-MD-FMP

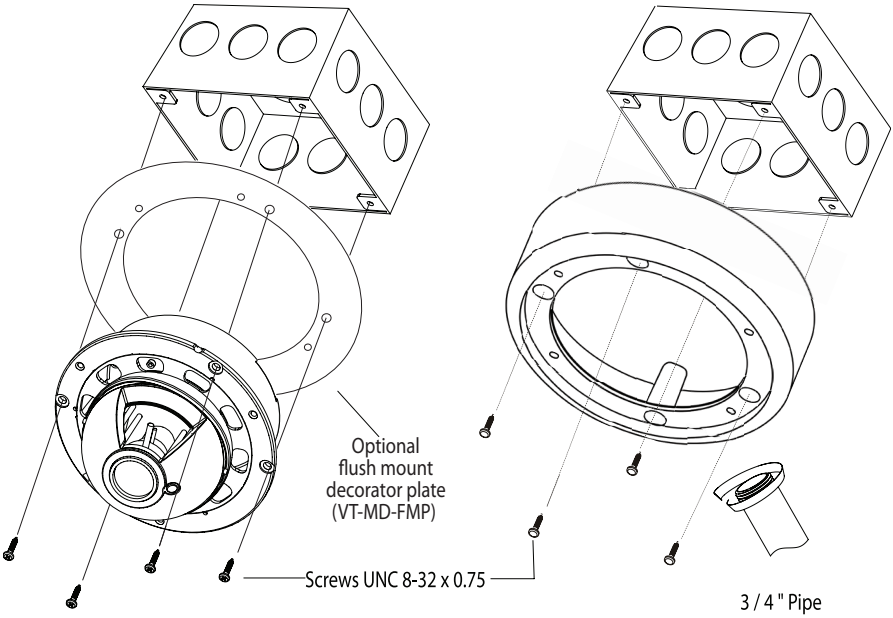
3) Surface Mount Installation:

Drill pilot holes at the mounting location using the provided mounting template. Using four St4x30 screws, mount the surface mount housing to a sturdy surface. Using four ST4x12 (Indoor) screws or M4x10 (Vandal-proof) screws, attach the flush mount base to the surface mount housing.



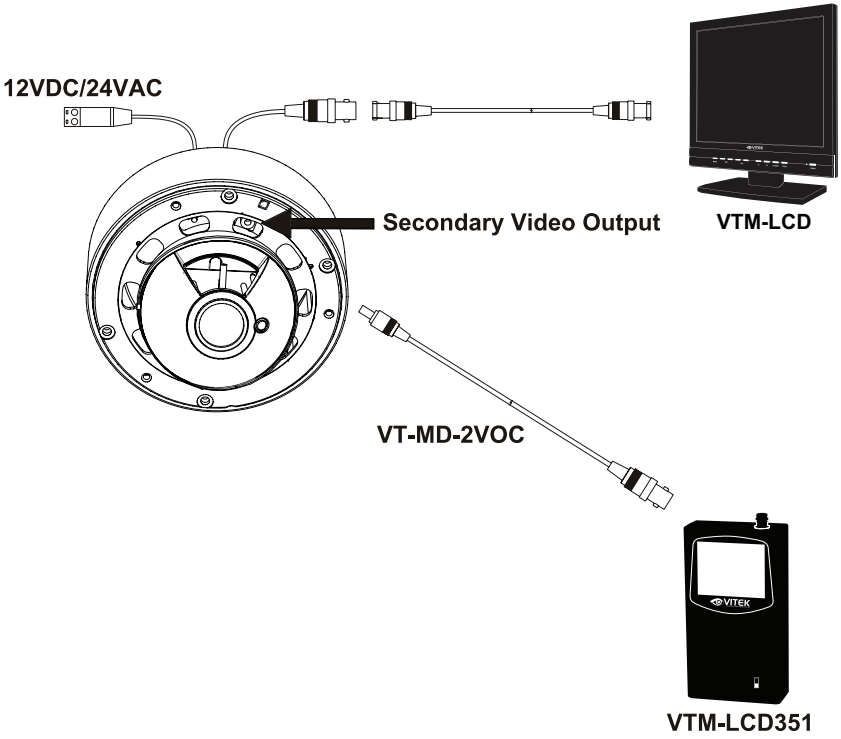
JUNCTION BOX INSTALLATION

Mighty Domes can easily be flush or surface mounted to an electrical junction box (4S J-Box) using the pre-drilled mounting holes on either the surface mount housing or the the flush mount base.



CONNECTIONS

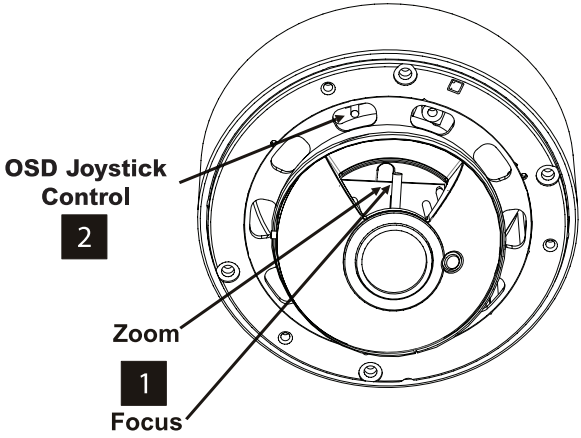
- *Power connection: 12VDC or 24VAC dual input.*
- *All Mighty Dome cameras come standard with a secondary video output. The secondary video cable (VT-MD-2VOC) is included in the box.*

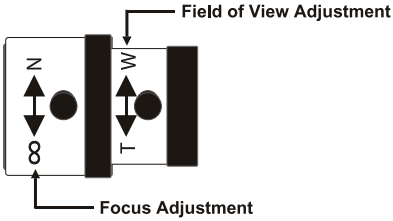


LENS ADJUSTMENT

1) *Loosen Zoom & Focus screws and make necessary adjustments as shown.*
Field of view: Telephoto(T) to Wide(W)
Focus: Near(N) to infinity( )

2) *OSD Joystick Control*

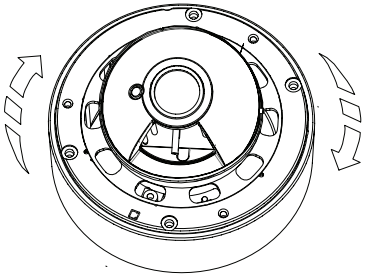




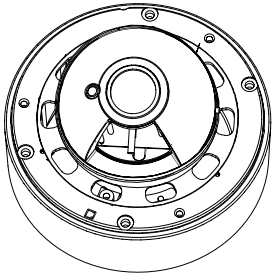
3-AXIS GIMBAL ADJUSTMENT

The Gimbal mechanism yields maximum rotation and placement as shown below.

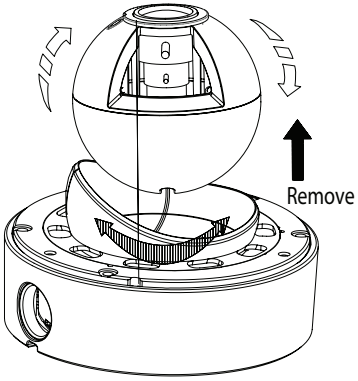
1 Pan



2 Tilt



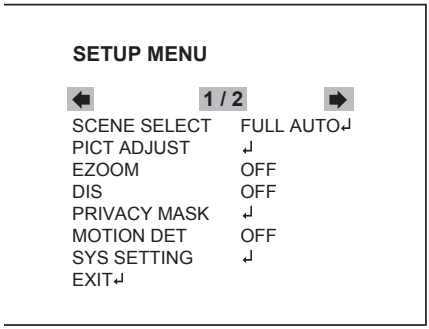
3 Horizontal Rotation

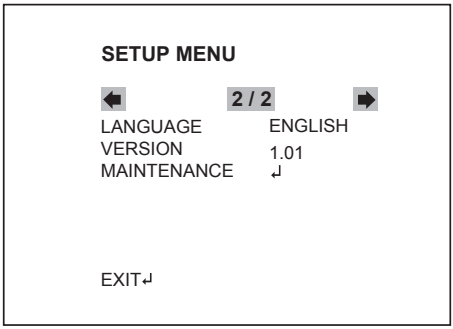


OSD menu Startup

Press the 'OSD menu SET key' down to access the setup menu mode.

- ⬅ / ➡ : Selects previous page or next page.
- EXIT : Enters 'EXIT' menu.
- RETURN : Returns to the previous menu.





OSD menu Table

SETUP MENU	ADVANCED MENU	CONFIGURATION		
SCENE SELECT	FULL AUTO/ INDOOR/ OUTDOOR/ BACKLIGHT/ ITS/ CUSTOM			
	SHUTTER/AGC	AUTO	AE LEVEL	100
			AGC MAX	42DB
			SENS UP	OFF
		MANUAL	SHUTTER	1/50(1/60)
			AGC MAX	42DB
		FIX	SHUTTER	1/50(1/60)
			AGC MAX	42DB
	WHITE BAL	ATW	SPEED	127
			DELAY CNT	30
			ATW FRAME	200
			ENVIRONMENT	INDOOR
	HLC / BLC	OFF		
		HLC	CLIP LEVEL	10

OSD MENU FEATURES/SETUP

SCENE SELECT	WDR / ATR-EX	WDR for V-Series, ATR-EX for A-Series		
	DNR	LEVEL	3	
	DAY/NIGHT	AUTO	BURST	OFF
			CNTL SIGNAL	EXT1
			DELAY CNT	3
			DAY->NIGHT	80
			NIGHT->DAY	120
	IR OPTIMIZER	ON	MODE	AUTO
			IR AREA	---
			LEVEL	3
			IR LED	DAY/NIGHT
			COLOR NIGHT	ON/OFF
		OFF (default)		
	LENS SHD COMP	OFF		
		ON	PATTERN	SET1/2/3
			POSH	480
			POSV	290
	DEFOG	OFF		
		ON	LEVEL	MID
	FLK LESS	OFF		
		AUTO	MODE	GAIN CNTL
		ON	MODE	GAIN CNTL
	ANTI CR	AUTO / OFF / ON		
PICT ADJUST	BRIGHTNESS	120		
	CONTRAST	33		
	SHARPNESS	8		
	HUE	64		
	COLOR GAIN	128		
EZOOM	OFF			
	ON	MAG	0	
		PAN	512	
		TILT	256	
DIS	OFF / ON			
PRIVACY MASK	AREA SEL	1/15		
	DISPLAY	OFF		
	POSITION			
	COLOR			

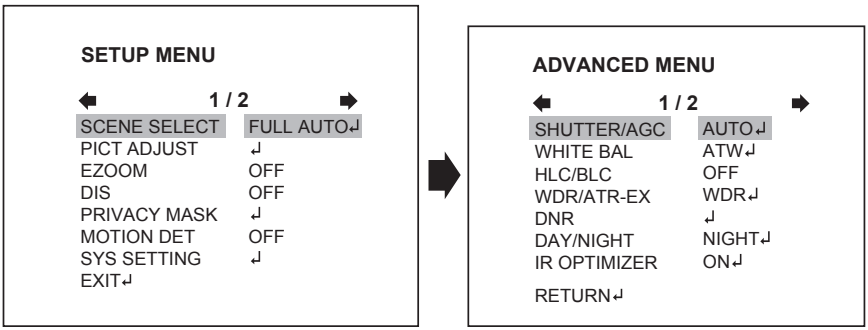
OSD MENU FEATURES/SETUP

PRIVACY MASK	TRANSP			
	MOSAIC			
MOTION DET	OFF			
	ON	DETECT SENSE	111	
		INTERVAL	0	
		BLOCK DISP	OFF	
		MASK AREA		
		MONITOR AREA	AREA SEL	1/4
			AREA MODE	OFF
			TOP	
			BOTTOM	
			LEFT	
			RIGHT	
SYS SETTING	LENS	AUTO	TYPE	DC
			MODE	AUTO
			ADJUST	
			SPEED	30
	FLIP	OFF / V / H / HV		
	LCD / CRT	CRT		
	CAMERA ID	OFF / ON		
LANGUAGE	English/ Spanish/ Russian/ Portuguese/ German/ French/ Chinese/ Japanese			
VERSION	1.01			
MAINTENANCE	W.PIX MASK	MANUAL COMP	REGISTRATION	
			REG. POINT	
			CURSOR COLOR	
			BLINK	
			REG. NUMBER	
		AUTO COMP	LEVEL1 / LEVEL2 / AUTO	
		DATA CLEAR	YES / NO	
	CAMERA RESET			
EXIT	SAVE / NOT SAVE / CANCEL / BACK			

OSD MENU FEATURES/SETUP

OSD menu Setup

Press the OSD menu SET key down to access the setup menu mode.



1. SCENE SELECT

These options have been pre-configured at the factory for optimal performance. You can choose one of FULL AUTO, INDOOR, OUTDOOR, BACKLIGHT, ITS and CUSTOM according to the environments.
Each SCENE preset offers how to set SHUTTER +AGC, WHITE BAL, HLC/BLC, WDR/ATR-EX, DNR, DAY/NIGHT, IR OPTIMIZER, LENS SHD COMP, DEFOG, FLK LESS, and ANTI CR functions to get the best image for the SCENE SELECT.

> FULL AUTO: Optimized for the general scene.
> INDOOR: Optimized for indoor environment.
> OUTDOOR: Optimized for outdoor environment.
> BACKLIGHT: Optimized for backlight condition such as near the window in daylight.
> ITS: Optimized for the environment on traffic roads.
> CUSTOM: Setting for user customized environment.

If the selected preset does not seem to be the best choice, further adjustments are available in each preset.

1-1. SHUTTER/AGC

Sets the SHUTTER/AGC level to AUTO, MANUAL or FIX.

1-1-1. AUTO:

Video level is automatically controlled to follow the settings of AE LEVEL, AGC MAX, SENS UP. In this mode, 'DC Auto Iris Lens' and 'Fixed Lens' are available.

1-1-2. MANUAL:

Video level is manually controlled by the settings of SHUTTER, AGC MAX. In this mode, 'DC Auto Iris Lens' is only available.

1-1-3. FIX:

Video level is fixed in any conditions by the setting of SHUTTER, AGC MAX.

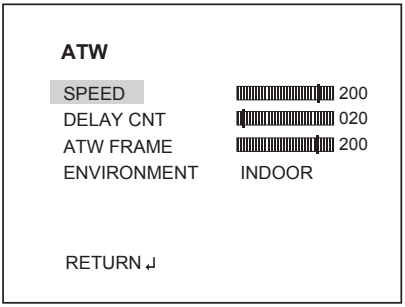
1-2. WHITE BAL

Ability to set the WHITE BALANCE mode.

1-2-1. ATW (Auto Trace White Balance):

Automatically tracks the changes of color temperature and continuously adjusts the white balance. The white balance range is 1,800 °K~10,500°K.

Note: *If you set to 'CUSTOM' mode in 'SCENE SELECT' menu, the 'WHITE BAL' sub-menu will appear. 'ATW/ PUSH/ USER1/ USER2/ MANUAL/ PUSH LOCK' functions that you can select one.*
Other modes in 'SCENE SELECT' menu, the 'WHITE BAL' sub-menu is only ' ATW' function.



• **SPEED** (default: 200):

Sets the AWB(Automatic White Balance) compensating speed. Lower value makes AWB faster. ** Too fast AWB may cause color oscillation.*

• **DELAY CNT** (default: 20):

Adjusts the AWB compensation delay to next update of AWB.
The smaller value will update AWB more frequently (faster).

• **ATW FRAME** (default: 200):

Determines the ATW range with respect to the fundamental range. Higher value extends the ATW range at lower and higher color temperature.

• **ENVIRONMENT** (default: INDOOR):

Selects INDOOR, SUNNY, SHADE or AUTO

> **INDOOR** : Optimized for Indoor installation and more easily compensates ATW for low color temperature such as incandescent lights.

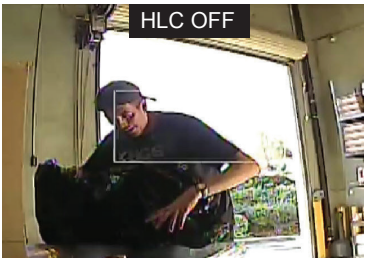
> **SUNNY** : Optimized for outdoor sunlight applications and more easily compensates ATW for high color temperature such as sunlight.

> **SHADE** : Optimized for shade area compensation.

> **AUTO** : Optimized for general scene.

1-3. HLC/BLC

HLC (Highlight Cut out) :
This function is used to black out highlighted (bright) areas, in order to enable a clear visual image of objects, such as the license plates of an oncoming vehicle or other objects that may be obstructed by headlamps.



BLC (Backlight Compensation) :
This function is used to brighten an image in the foreground with a highly bright area behind it such as sunlight, limiting the affect of silhouette.

1-3-1. OFF: Disables HLC and BLC functions.

1-3-2. HLC:

HLC clips out the highlight (bright) area and masks it as black color.
Video will be clipped out and masked for the area which exceeds CLIP LEVEL.

• **CLIP LEVEL** (default: 10):

Defines the threshold level for HLC. Lower value is more sensitive.

1-3-3. BLC: Sets BLC function enable or disable.

Sets BLC function enable or disable
Note: *BLC is available only in 'CUSTOM' scene preset.*

1-4. WDR/ATR-EX

1-4-1. WDR(Wide Dynamic Range): V-Series Only

This function extends the gain range of the screen that is useful if the camera takes a simultaneous picture of both indoor and outdoor. It improves contrast of the picture in outdoor scenery as well as indoor. Video image is processed from two images by dual shutter (long and short shutter) in a field to provide the best dynamic range. Highlight area is compensated by the short shutter and dark area is compensated by the long shutter. Final video may have less contrast compared to the conventional camera which does not have WDR function.

• **CONTRAST** (default: MID): It can be selected only in 'CUSTOM' scene preset.

• **CLEAR FACE** (default: MID): Selects one of 'LOW/MID/HIGH'

Note: *WDR is fixed except in 'CUSTOM' scene preset.*
Select one of 'WDR/ATR-EX/OFF' in 'CUSTOM' scene preset.

1-4-2. ATR-EX (Adaptive Tone Reproduction-EX):

Sets enabling/disabling ATR compensation for better dynamic range (D-WDR) of the image.
ATR feature improves the dynamic range and the visibility of the image by providing the optimal gradation compensation of the image in one field. This is achieved by two ways of image processing, luminance compression and contrast enhancement, so that the tone can be enhanced at highlight (bright) and dark area.

1-5. DNR

DNR(Digital Noise Reduction) function improves picture quality by filtering out signal noise which is generated under low light conditions. It is 3DNR (3-dimensional noise reduction) which reduces the noise by multi frame comparison. Noise Reduction is effective at low light. Setting a higher level of noise reduction may result in the loss of sharpness and the tail effect of a comet may occur.

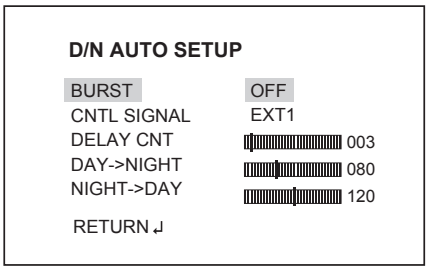
OSD MENU FEATURES/SETUP

1-6. DAY/NIGHT

This function is used to control the setting during day-time and night-time operation.

1-6-1. AUTO

AUTO mode in DAY/NIGHT is used only for a camera which does not have a light sensor. Camera switches DAY from/to NIGHT automatically according to the amount of light through the lens.



• **BURST** (default: OFF)

BURST determines whether a color burst signal keeps outputting or eliminated when camera switches to B/W.
If set to ON, B/W video signal contains color burst signal and is compatible with color equipment but shows the same resolution as color video.
If set to OFF the color burst signal is removed from B/W video and shows better resolution but a compatibility problem may occur with the color equipment.

• **CNTL SIGNAL** (default: EXT1):

DAY/NIGHT is switched by amount of light through the lens.
Select one of 'INT/EXT1/EXT2'

• **DELAY CNT** (default: 3)

DELAY CNT is time in second while camera maintains its status before Day↔ Night switches. DELAY can avoid the unwanted/frivolous switching by a short term light such as light from a passing car.

• **DAY -> NIGHT** (default: 80)

DAY→NIGHT is a threshold level which determines to switch from DAY to NIGHT. Lower(Higher) value makes the camera switch from Day to Night at lower(higher) illumination. If it stays in Day(Color) mode at night time, increase DAY→NIGHT threshold value until it just switches to Night.
** Examine and verify Day/Night operation according to IMPORTANT ACTIVITY*

• **NIGHT -> DAY** (default: 120)

NIGHT→DAY is a threshold level which determines to switch from NIGHT to DAY. Lower(Higher) value makes the camera switch from Night to Day at lower (higher) illumination. If it stays in Night(B/W) mode in day time, decrease NIGHT-> DAY threshold value until it just switches to Day

** Examine and verify Day/Night operation according to IMPORTANT ACTIVITY*

1-6-2. DAY : The camera is always in Color mode.

1-6-3. NIGHT : The camera is always in B/W mode.

• **BURST** (default: OFF) :

Sets the BURST option ON/OFF to output burst signal in B/W mode.

IMPORTANT ACTIVITY

DAY->NIGHT and NIGHT->DAY operations must be examined and verified at the final installation.

Block the lens for a few seconds for NIGHT mode and release and let it return to DAY mode. If camera stays at NIGHT mode more than 10sec, decrease NIGHT-> DAY THRESHOLD a little and repeat the fore-mentioned steps. If the scene is too dim or lens iris was adjusted too low(near close), it may not return to DAY.

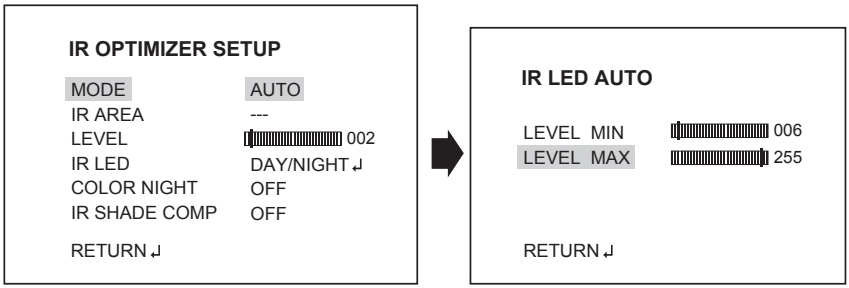
CAUTION

- Verify 'DAY/NIGHT' after completing all settings of lens for zoom and focus.
- If the gap between DAY->NIGHT and NIGHT->DAY is too small, camera may repeat switching DAY from/to NIGHT. If NIGHT->DAY is decreased from the Factory default, the same amount is recommended for DAY->NIGHT to avoid repeating DAY<->NIGHT unintentionally.

OSD MENU FEATURES/SETUP

1-7. IR OPTIMIZER

This function is effective for built-in LED models in NIGHT mode only.
If subjects which can cause overexposure are located near the monitored area, you can adjust IR OPTIMIZER level or area.



1-7-1. MODE : AUTO
Reducing the over-saturation is automatically adjusted along with the location of the subject.

1-7-2. IR AREA :
Sets the IR OPTIMIZER AREA this function works in 'CUSTOM preset only.

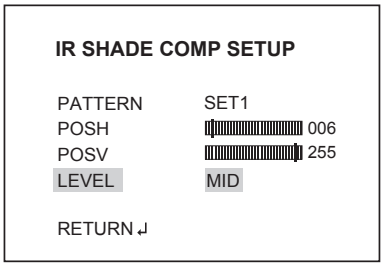
1-7-3. LEVEL (default: 002):
This function is used to adjust the overall when IR OPTIMIZER is working.
If the LEVEL is too high, over-saturation could occur.

1-7-4. IR LED: Sets the IR LED ON/OFF controlling

- **DAY/NIGHT** : Follows the setting of DAY/NIGHT function.
- **OFF** : Turns IR LED off.
- **FIX** : Fixes the brightness of IR LED in any condition.

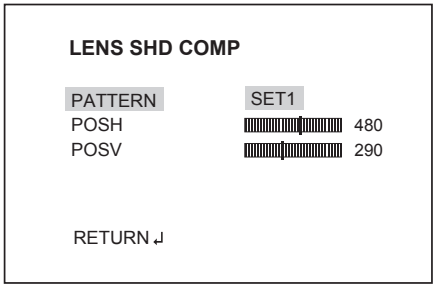
1-7-5. COLOR NIGHT (default: OFF): Displays night video in color.

1-7-6. IR SHADE COMP (default: OFF):
This function is used to compensate for IR shade of the side areas on screen when IR LED is ON. You can adjust the shading PATTERN, POSITION and LEVEL.
If the LEVEL is high, the screen noise could be increased at the side areas.



1-8. LENS SHD COMP (default: OFF)

This function is used to caculate the compensation data for lens shading.
Convex shape of the lens causes the light to enter the camera unevenly and typically makes the center of the screen brighter than the rest. It is used to compensate for this undesirable effect and make the screen more even.
Set to 'ON', you can adjust the shading PATTERN and POSITION.



1-9. DEFOG (default: ON)

This function is used to carry out defog function. Sets LEVEL to eliminate amount of fog on screen.
If the DEFOG is set to ON, the WDR/BLC function will be deactivated.

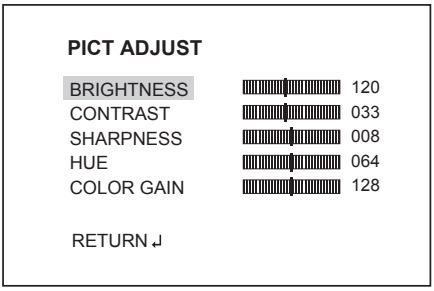
1-10. FLK LESS (default: AUTO)

This function is used to remove the flickering on screen due to differences in light and electric frequencies.

1-11. ANTI-CR (default: AUTO)

This mode can minimize problems related to color rolling caused by differences between the flicker of fluorescent lights and the frequency of the camera.

2. PICT ADJUST



2-1. BRIGHTNESS (default: 120):

Increases or decreases the brightness of the picture.
This is different from that of DC iris lens and simply increases or decreases the digital gain of video. Do not increase this too much, the dynamic range for the highlight area will decrease.

2-2. CONTRAST (default: 033):

Adjusts the strength of the image contrast. If set to too high, the dark area may loss detail and the high luminance area may saturate.

2-3. SHARPNESS (default: 008):

Increases or decreases the sharpness of the picture.
Too much sharpness can make image harsh and show more noise as well as line flicker at the edge of objects in the picture.

2-4. HUE (default: 064): Adjusts hue for NTSC version only.

2-5. COLOR GAIN (default: 128): Increases or decreases the color saturation.

3. EZOOM

Sets the maximum digital zoom magnification. E.ZOOM function enlarges the pixel itself, which can cause deterioration of the picture quality.

3-1. MAG (default: 000):

MAG is the magnification ratio of the electronic zoom. Sets from x000 to x255.

3-2. PAN (default: 512):

When MAG is greater than 0, the electronic pan is available.
000 is the left most pan and 1023 is the right most pan.

3-3. TILT (default: 256):

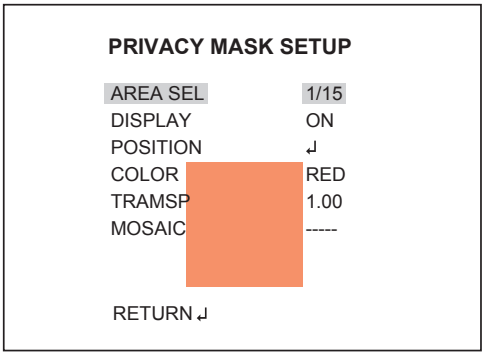
When MAG is greater than 0, the electronic tilt is available.
000 is the upper most tilt and 511 is the lower most tilt.

4. DIS (Digital Image Stabilization)

This function is used to reduce and stabilizest a shaky image from a camera installed in an area with vibration. FOV(Field of view) will be reduced if set to ON.

5. PRIVACY MASK

Sets ON/OFF for enabling/disabling PRIVACY.
Up to 15 privacy areas are available and each area is programmable in size and location. The number of privacy areas is limited to four when MOTION DET > MONITOR AREA is ON.
The privacy areas are masked with the color selected by PRIVACY MASK>COLOR.



5-1. AREA SEL (default: 1/15) : Selects one of AREA1~AREA15 to be adjusted.

5-2. DISPLAY (default: OFF)

Displays OFF/ON for the mask area which you selected 'AREA SEL'

5-3. POSITION : Adjusts the mask area X,Y-Axis position which you selected 'AREA SEL'

- TOP/BOTTOM: ◄button moves up and ►button moves down the top (bottom) border of the selected window at AREA SEL.
- LEFT/RIGHT: ◄button moves left and ►button moves right the left (right) border of the selected window at AREA SEL.

5-4. COLOR : Selects one of 8 colors (Red, Green, Blue, Yellow, Cyan, Magenta, White, Black) for the selected mask window at AREA SEL.

5-5. TRANSP : Transparency rate for the mask can be adjusted.

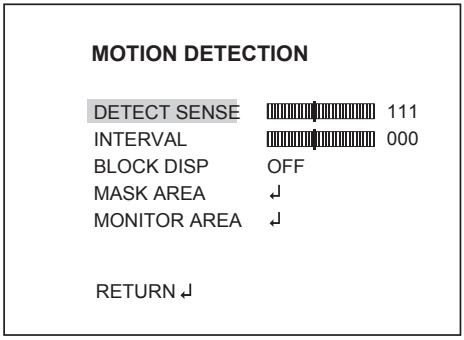
0.00 - Mask is fully transparent and not visible.
0.50 - Mask is 50% transparent.
0.75 - Mask is 25% transparent.
1.00 - Mask is not transparent.

5-6. MOSAIC

Enables or disables the mosaic effect for the selected mask window at AREA SEL

6. MOTION DET

Up to 4 motion detection areas are available and each area is programmable in size and location. The motion is displayed by means of blocks when MOTION DET and MOTION DET>BLOCK DISP are ON.



6-1. DETECT SENSE (default: 111)

Adjusts the sensitivity for detecting motion. Higher value is more sensitive.

6-2. INTERVAL (default: 0)

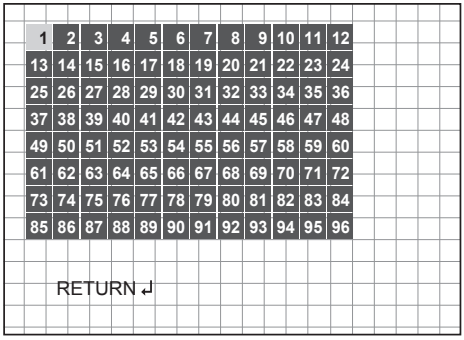
Sets the interval time from the starting of motion operation until being ready for the next motion operation.

6-3. BLOCK DISP (default: OFF)

Enables or disables displaying blocks for the area which the motion is detected

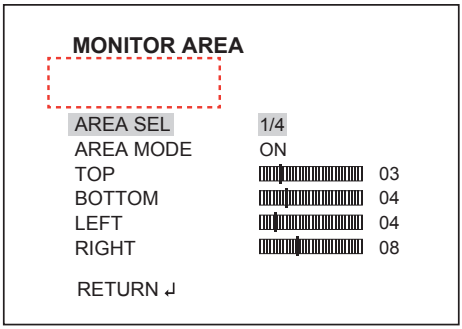
6-4. MASK AREA

Sets MASK AREA for disabling MOTION DETECTION.
Selects number of area cells to set the area you need.



6-5. MONITOR AREA

Sets the MOTION DETECTION area on screen.



6-5-1. AREA SEL (default: 1/4) : Selects one of AREA1~AREA4 to be adjusted. Each area is displayed with the color. AREA1-Red, AREA2-Green, AREA3-Blue, AREA4-Yellow

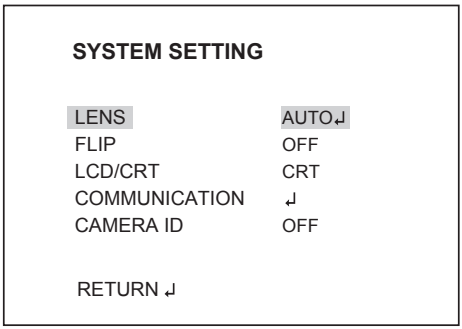
6-5-2. AREA MODE (default: OFF):
Setting ON activates the AREA SEL which you selected.

6-5-3. TOP/ BOOTTOM / LEFT / RIGHT
Sets the AREA SEL box sizes and positions with four direction points.

- TOP/BOTTOM: ◄button moves up and ►button moves down the top (bottom) border of the selected window at AREA SEL.
- LEFT/RIGHT: ◄button moves left and ►button moves right the left (right) border of the selected window at AREA SEL.

7. SYS SETTING

Sets the system related functions.



OSD MENU FEATURES/SETUP

7-1. LENS

Selects the lens type, AUTO or MANUAL. AUTO supports DC auto-iris lens only.

7-1-1. AUTO

- **TYPE** (default: DC): This camera does NOT support video type auto iris lens.
  MUST BE SET TO DC ONLY.
- **MODE** (default: AUTO):
  Lens iris is automatically controlled according to the scene light level.
- **ADJUST** : Adjusts lens open control regardless of the light level.
- **SPEED** (default: 30):
  Adjusts the iris control speed. The lower value is the faster speed.
  If the speed is too slow or fast, the iris control may be unstable.

7-2. FLIP : This function is used to inverse the pictures coming from the camera.

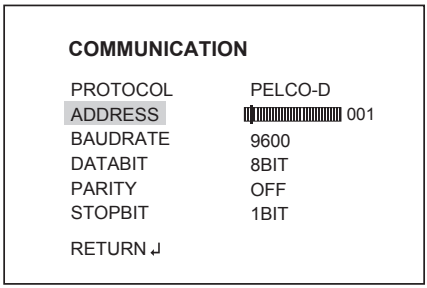
- **V** : Flips the video signals vertically.
- **H** : Flips the video signals horizontally.
- **HV** : Flips the video signals horizontally and vertically.

7-3. LCD/CRT (default: CRT):

Select the correct type of viewing monitor will ensure the most optimal picture.

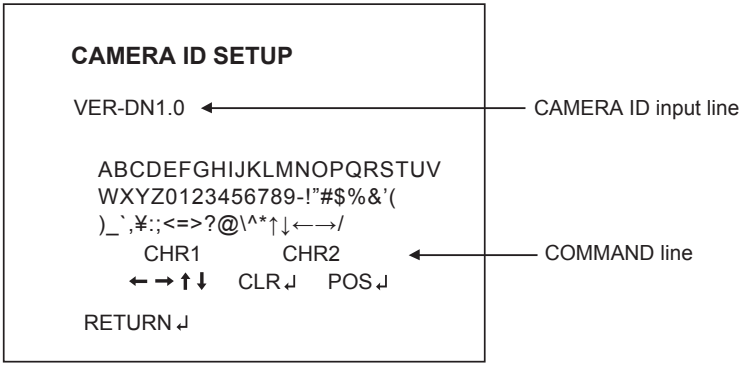
7-4. COMMUNICATION

Sets the communication related function.
PROTOCOL(PELCO-D), BAUDRATE(9600), DATABIT(8), PARITY(OFF), STOPBIT(1) are fixed. Can set only ADDRESS number.



7-4. CAMERA ID

Set ON/OFF for enabling/disabling of ID display. Factory default ID is Software version of camera. User programmed camera ID will be lost and restored with factory default ID by CAMERA RESET.
Up to 40 characters can be input for camera ID.



● Use four direction buttons (▲/▼/◀/►) to move the block cursor in character table and press the set button (◙) to input the selected character.
To move the character input position on CAMERA ID input line, move the cursor to ← or → on COMMAND LINE and press the set button on ← or →.

● **CLR** : To clear CAMERA ID input line, move the cursor to CLR on COMMAND LINE and press a set button (◙).

● **POS** : To set the location of CAM TITLE to be displayed on the monitor, move the cursor to POS and press the set button (◙) and then the OSD menu disappears and CAMERA ID will be displayed on the monitor.
Move CAMERA ID to desired position by using four direction buttons (▲/▼/◀ / ►) then press the set button (◙) to fix. The OSD Menu will appear again.

8. LANGUAGE

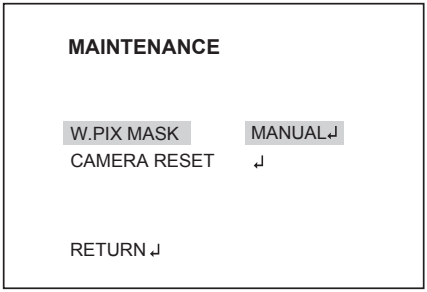
8 languages, ENGLISH, SPANISH, RUSSIAN, PORTUGUESE, GERMAN, FRENCH, CHINESE and JAPANESE are available.

9. VERSION

The camera firmware version is displayed.

10. MAINTENANCE

Set the OSD menu user environments and Camera reset.



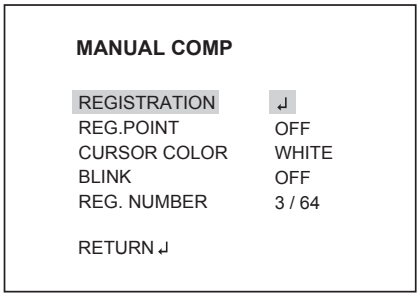
10-1-1. MANUAL COMP

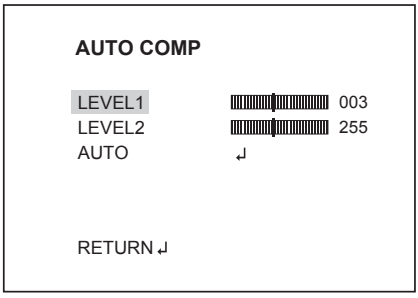
: Setting for white pixel(defective pixels) compensation manually.

- **REGISTRATION** : Detects each white pixel using the cursor.
- **REG. POINT** : Displays white pixels in color which you detected.
- **CURSOR COLOR** : Selects cursor color one of green, red, or blue.
- **BLINK** : Sets the cursor blink or not.
- **REG. NUMBER** : Displays quantity of detected white pixels.

10-1. W.PIX MASK

This function is used to compensate white pixels(defective pixels).





10-1-2. AUTO COMP

: Setting for white pixels(defective pixels) compensation automatically.

- **LEVEL1** : Sets the threshold of the detection for white pixels.
- **LEVEL2** : Sets the threshold of the detection for very large white pixels.
- **AUTO** : Starts the automatic detection of white pixels.

10-2. CAMERA RESET

This function is used to reset to the factory defaults of the camera settings.

11. EXIT

Exits SETUP MENU and returns to the normal display.

11-1. SAVE : Save all the setting before exiting the setup menu.

11-2. NOT SAVE : Exit the setup menu without saving.

11-3. CANCEL : Cancel the exit mode.

11-4. BACK : Go back to the previous menu mode.

HEATER / BLOWER OPTION (Vandal Versions)

Detailed Specifications	VT-MD-HB24
Power Supply	24 VAC
Power Consumption	10W (Heater) / .7W (Blower)
Heater	On: at 41ºF / Off at 59ºF
Blower	Continuous 24 Hour Operation
Extreme Weather Heater - Optional	Operation down to -60ºF

INDOOR WDR SPECIFICATIONS

Detailed Specifications	VTD-MS2810WDR	VTD-MS922WDR
Image Device	1/3" 960H High Density Double Scan Sony CCD w/Effio-V	
Resolution	750TV Lines	
Effective Pixels	976(H) x 494(V)	
Minimum Illumination	0.0001 Lux (F1.2@40 IRE, DSS x4)	
Lens Options	2.8-10mm	9-22mm
Day/Night	True Day/Night by ICR	
WDR	YES	
Noise Reduction	XD-DNR (2D+3D DNR)	
Motion Detection	4 Programmable Zones	
Privacy Mask	Polygon Masking with 15 Programmable Zones	
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK	
FLIP	H-Flip, V-Flip, H/V Flip	
Synchronization	Internal	
S/N Ratio	More than 52dB with AGC OFF at 50IRE	
Electronic Iris	1/60 ~ 1/100,000sec	
Advanced OSD Functions	Defog, BLC/HLC, Privacy Masking, Motion Detection, Flip, LSC	
OSD Language	English, Spanish, Portuguese, German, French, Russian, Chinese	
Digital Image Stabilazation	YES	
DSS	YES	
Digital Zoom	Up to X12 Digital Zoom	
Power Source	UL Certified: 12VDC / 24VAC	
Power Consumption (12VDC)	2.64 W / 220 mA	
Power Consumption (24VAC)	2.64 W / 110 mA	
Operating Conditions	-4°~122°F (-20°-50°C)	
Dimensions (H x Dia.)	4.45" x 5.71" (113mm x 145mm)	
Weight	1lb / .46Kg	

VANDAL WDR SPECIFICATIONS

Detailed Specifications	VTD-MVS2810WDR	VTD-MVS922WDR
Image Device	1/3" 960H High Density Double Scan Sony CCD w/Effio-V	
Resolution	750TV Lines	
Effective Pixels	976(H) x 494(V)	
Minimum Illumination	0.0001 Lux (F1.2@40 IRE, DSS x4)	
Lens Options	2.8-10mm	9-22mm
Day/Night	True Day/Night by ICR	
WDR	YES	
Noise Reduction	XD-DNR (2D+3D DNR)	
Motion Detection	4 Programmable Zones	
Privacy Mask	Polygon Masking with 15 Programmable Zones	
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK	
FLIP	H-Flip, V-Flip, H/V Flip	
Synchronization	Internal	
S/N Ratio	More than 52dB with AGC OFF at 50IRE	
Electronic Iris	1/60 ~ 1/100,000sec	
Advanced OSD Functions	Defog, BLC/HLC, Privacy Masking, Motion Detection, Flip, LSC	
OSD Language	English, Spanish, Portuguese, German, French, Russian, Chinese	
Digital Image Stabilazation	YES	
DSS	YES	
Digital Zoom	Up to X12 Digital Zoom	
Water Resistance	IP-68	
Power Source	UL Certified: 12VDC / 24VAC	
Power Consumption (12VDC)	2.64 W / 220 mA	
Power Consumption (24VAC)	2.64 W / 110 mA	
Operating Conditions	-4°~122°F (-20°-50°C)	
Dimensions (H x Dia.)	4.45" x 6.73" (110mm x 170mm)	
Weight	2.3 lb / 1.04Kg	

INDOOR DAY/NIGHT SPECIFICATIONS

Detailed Specifications	VTD-MS2810DN	VTD-MS922DN	VTD-MS1850DN
Image Device	1/3" 960H High Density Double Scan Sony CCD w/Effio-A		
Resolution	750TV Lines		
Effective Pixels	976(H) x 494(V)		
Minimum Illumination	0.0005Lux (Sens-up OFF)		
Lens Options	2.8-10mm	9-22mm	18-50mm
Day/Night	True Day/Night by ICR		
WDR	D-WDR by ATR-EX2		
Noise Reduction	XD-DNR (2D+3D DNR)		
Motion Detection	4 Programmable Zones		
Privacy Mask	Polygon Masking with 15 Programmable Zones		
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK		
FLIP	H-Flip, V-Flip, H/V Flip		
Synchronization	Internal		
S/N Ratio	More than 52dB with AGC OFF at 50IRE		
Electronic Iris	1/60 ~ 1/100,000sec		
Advanced OSD Functions	Defog, BLC/HLC, Privacy Masking, Motion Detection, Flip, LSC		
OSD Language	English, Spanish, Portuguese, German, French, Russian, Chinese		
Digital Image Stabilazation	YES		
DSS	YES		
Digital Zoom	Up to X12 Digital Zoom		
Power Source	UL Certifieed: 12VDC / 24VAC		
Power Consumption (12VDC)	2.64 W / 220 mA		
Power Consumption (24VAC)	2.64 W / 110 mA		
Operating Conditions	-4°~122°F (-20°-50°C)		
Dimensions (H x Dia.)	4.45" x 5.71" (113mm x 145mm)		
Weight	1lb / .46Kg		

VANDAL DAY/NIGHT SPECIFICATIONS

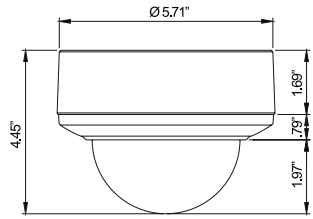
Detailed Specifications	VTD-MVS2810DN	VTD-MVS922DN	VTD-MVS1850DN
Image Device	1/3" 960H High Density Double Scan Sony CCD w/Effio-A		
Resolution	750TV Lines		
Effective Pixels	976(H) x 494(V)		
Minimum Illumination	0.0005Lux (Sens-up OFF)		
Lens Options	2.8-10mm	9-22mm	18-50mm
Day/Night	True Day/Night by ICR		
WDR	D-WDR by ATR-EX2		
Noise Reduction	XD-DNR (2D+3D DNR)		
Motion Detection	4 Programmable Zones		
Privacy Mask	Polygon Masking with 15 Programmable Zones		
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK		
FLIP	H-Flip, V-Flip, H/V Flip		
Synchronization	Internal		
S/N Ratio	More than 52dB with AGC OFF at 50IRE		
Electronic Iris	1/60 ~ 1/100,000sec		
Advanced OSD Functions	Defog, BLC/HLC, Privacy Masking, Motion Detection, Flip, LSC		
OSD Language	English, Spanish, Portuguese, German, French, Russian, Chinese		
Digital Image Stabilazation	YES		
DSS	YES		
Digital Zoom	Up to X12 Digital Zoom		
Water Resistance	IP-68		
Power Source	UL Certified: 12VDC / 24VAC		
Power Consumption (12VDC)	2.64 W / 220 mA		
Power Consumption (24VAC)	2.64 W / 110 mA		
Operating Conditions	-4°~122°F (-20°-50°C)		
Dimensions (H x Dia.)	4.45" x 6.73" (110mm x 170mm)		
Weight	2.3 lb / 1.04Kg		

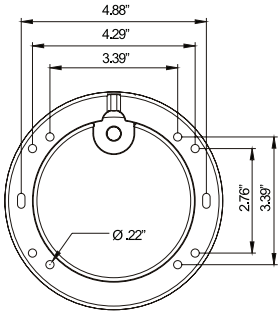
IR SPECIFICATIONS

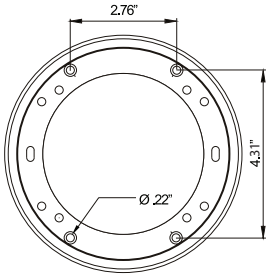
Detailed Specifications	VTD-MVS2810/L35	VTD-MVS922/L35	VTD-MVS1850/L35
Image Device	1/3" 960H High Density Double Scan Sony CCD w/Effio-A		
Resolution	750TV Lines		
Effective Pixels	976(H) x 494(V)		
Minimum Illumination	0.0005Lux (Sens-up OFF) / 0 Lux w/IR ON		
Lens Options	2.8-10mm	9-22mm	18-50mm
IR LEDs (Built-In)	35 IR LED's with up to 120' Range		
Day/Night	True Day/Night by ICR		
WDR	D-WDR by ATR-EX2		
Noise Reduction	XD-DNR (2D+3D DNR)		
Motion Detection	4 Programmable Zones		
Privacy Mask	Polygon Masking with 15 Programmable Zones		
White Balance	ATW / PUSH / USER1 / USER2 / MANUAL / PUSH LOCK		
FLIP	H-Flip, V-Flip, H/V Flip		
Synchronization	Internal		
S/N Ratio	More than 52dB with AGC OFF at 50IRE		
Electronic Iris	1/60 ~ 1/100,000sec		
Advanced OSD Functions	Defog, BLC/HLC, Privacy Masking, Motion Detection, Flip, LSC		
OSD Language	English, Spanish, Portuguese, German, French, Russian, Chinese		
Digital Image Stabilazation	YES		
DSS	YES		
Digital Zoom	Up to X12 Digital Zoom		
Power Source	UL Certified: 12VDC / 24VAC		
Power Consumption (12VDC)	150mA (IR OFF) / 480mA (IR ON)		
Power Consumption (24VAC)	170mA (IR OFF) / 430mA (IR ON)		
Operating Conditions	-4°~122°F (-20°-50°C)		
Dimensions (H x Dia.)	4.45" x 6.73" (110mm x 170mm)		
Weight	1lb / .46Kg		

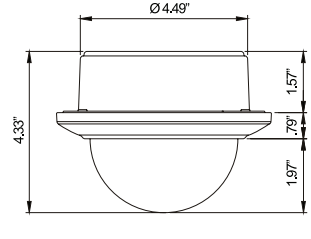
DIMENSIONS

Indoor

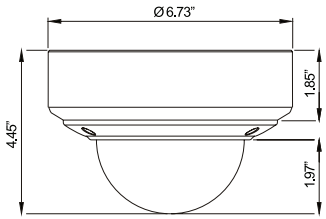


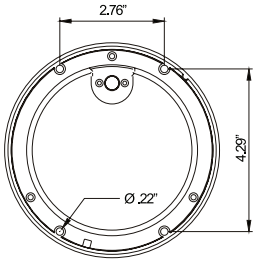


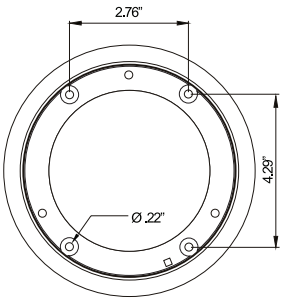


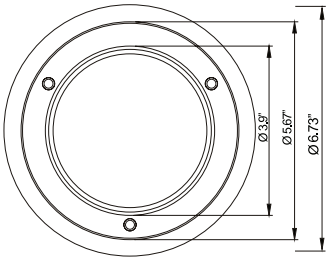


Vandal









OTHER PRODUCTS FROM VITEK

VTC-C960DS / VTC-C960WS

750 TVL 960H True Day/Night CCD Cameras w/Effio-A/V Processing

- VTC-C960DS: 750 TVL 960H True Day/Night CCD Camera w/Effio-A Processing
- VTC-C960WS: 750 TVL 960H WDR Day/Night CCD Camera w/Effio-V Processing
- 1/3" High density Sony CCD (960H)
- High Resolution of 750 Horizontal Lines
- Small scale design to fit in 5" dome enclosures such as the Pelco DF5 Housing
- E-WDR by ATR-EX (Adaptive Tone Reproduction) (VTC-C960DS)
- True WDR (Wide Dynamic Range) (VTC-C960WS)
- Sensitivity of 0.0005 Lux
- XD-DNR (2D+3D DNR) Advanced Digital Noise Reduction
- True Day/Night by ICR - Infrared Cut Removal
- Built-in Motion Detection with a 24x16 Grid
- Privacy Mask function with up to 15 programmable mask areas
- 12VDC / 24VAC Dual Voltage Operation
- Lenses Sold Separately

Spire

SPIRE Elite Series
960H Digital Video Recorders

VT-SRE Series
Spire Series 4, 8, & 16 Channel 960H Digital Video Recorders

- Supports High Resolution 960H Cameras
- 4, 8 or 16 Video Inputs with 1 HDMI, 1 Spot Monitor Output and 1 VGA output
- H.264 Compression
- Up to 480fps Live Display & 480fps Recording (VT-SRE916) / 240/240 (VT-SRE908) / 120/120 (VT-SRE904)
- Supports both Dynamic and Static IP Addresses
- 4 Audio Inputs / 1 Audio Out
- 4 Alarm Inputs / 2 Relays Out
- Supports Four internal Hard Drives (VT-SRE908/VT-SRE916) / Two internal Hard Drive (VT-SRE904)
- Supports 4TB Hard Drives
- Remote Viewing over the Internet via Web Browser or LAN
- Applications for iPhone, iPad, iTouch and Android Devices
- “Quick Search” Function for automatic review
- Mac OSX Client & CMS Central Management Software Included
- Automatic sending of Health & Event notifications via email
- Control locally via Front Panel Controls, USB Mouse or with the Included IR Remote control
- PTZ Control over RS-485
- Rack Mountable (Optional VT-SRE-RK Rack Kit)

LIMITED LIABILITY WARRANTY

VITEK products carry a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is nontransferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

This guarantee does not affect your statutory rights.

Contact your local VITEK Reseller should servicing become necessary.

VITEK makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a VITEK Authorized Reseller.

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